K-0133

**PATENT** 

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF APPEALS AND INTERFERENCES

In re Application of: Byung Keun LIM and Young Sik YOUN

Application No.: 09/475,186

Group Art Unit: 2684

Confirm. No.:

6047

Examiner: Tanmay S. LELE

Filed:

December 30, 1999

Customer No.: 34610

For:

SYSTEM AND METHOD FOR CONTROLLING PACKET DATA SERVICE IN

MOBILE COMMUNICATION NETWORK

## TRANSMITTAL OF APPEAL BRIEF

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**Technology Center 2600** 

Sir:

Submitted herewith in triplicate is Appellants' Appeal Brief in support of the Notice of Appeal filed January 26, 2004. Enclosed is Check No. 12257 for the Appeal Brief fee of \$330.00. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted, FLESHNER & KIM, LLP

al A Wewloush.

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Date: June 28, 2004

Please direct all correspondence to Customer Number 34610

Docket No.:

K-133

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF APPEALS AND INTERFERENCES

In re Application of

Byung Keun LIM and Young Sik YOUN

Serial No.:

09/475,186

Group Art Unit: 2684

Confirm. No.: 6047

Examiner: Tanmay S. LELE

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SYSTEM AND METHOD FOR CONTROLLING PACKET DATA

SERVICE IN MOBILE COMMUNICATION NETWORK

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JUL 0 2 2004

Technology Center 2600

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed January 26, 2004.

## REAL PARTY IN INTEREST

The party in interest is the assignee, LG Information & Communications, Ltd. The assignment document is recorded at Reel 10482 and Frame 499.

# RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

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#### STATUS OF THE CLAIMS

This is an appeal from the final rejection dated September 25, 2003 of claims 1-20. No other claims are pending.

#### STATUS OF AMENDMENTS

The Amendment After Final Rejection filed December 24, 2003 has not been entered. The February 24, 2003 Amendment filed in this application has been entered. A correct copy of appealed claims 1-20, including all entered amendments thereto, appears in the attached Appendix.

#### SUMMARY OF THE INVENTION

In a related art IMT-2000/PCS/cellular mobile telephone system, a medium access control (hereafter MAC) layer is located between a terminal and a base station system to effectively transfer packet data therebetween. A packet data service (PDS) active terminal and a base station system interact to maintain four states of such a MAC layer (active, control hold, suspended and dormant) as shown in Fig. 1, according to the presence of data to be transferred. [page 1, line 8-page 2, line17] However, in the related art system, a handoff operation can be performed between the old and new radio network controllers only in the active state and the control hold state among the above-described states of a MAC layer for a PDS active terminal.

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Thus, the handoff operation cannot be executed at either the suspended state or the dormant state. [page 3, lines 15-20]

Embodiments of the present invention relate to a system and method for controlling packet data service in a mobile communication system. [Title] In embodiments, a plurality of radio network controllers (RNCs) 31, 32 assign radio channels and control a data service path for packet data service (PDS) active terminals 11-14 registered to a mobile switching center (MSC). A location management function (LMF) entity 41 can manage service state information and location information and connection information between the PDS active terminal and a packet data node (PDN) 61. The PDN 61 can maintain a point-to-point (PPP) link with PDS active terminals, and a home location register (HLR) 51 stores identifiers and registration information of the terminals 11-14. [page 8, lines 4-20, Figure 2]

In embodiments according to the present invention, when the PDS active terminal is in a suspended or dormant state, the LMF entity 41 can transmit MAC state information and radio resource control information of the PDS active terminal even when the PDS active terminal moves from an area of an old RNC, from which it is currently receiving a packet data service, to an area of a new target RNC. Then, after the PDS active terminal moves from an area controlled by an old RNC to an area of the new target RNC, the LMF entity 41 can synchronize information between the old and new RNCs. [page 9, lines 13 and page 10, line 2] Therefore, the packet data service can rapidly be resumed on the basis of an initially established point-to-point protocol link. [page 14, lines 8-17] Embodiments according to the present invention can

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use the LMF entity 41 to control and transmit MAC state information and radio resource control information of the PDS active terminal. [page 10, lines 10-19]

However, a considerably larger amount of data is present in the <u>suspended state</u> of the PDS active terminal relative to the data in the <u>dormant state</u> of the PDS active terminal because MAC state information of the terminal to be transferred to the new target RNC includes the radio link protocol (RLP) state information and the terminal radio resource control information in the suspended state of the terminal. [page 11, lines1-6] In a <u>first</u> exemplary approach, the PDS active terminal in the suspended state requests the serving RNC 31 to permit its change to the dormant state according to embodiments of the present invention. [page 11, lines 12-16] In a <u>second</u> exemplary approach, the PDS active terminal in the suspended state requests the serving RNC 31 to permit its change to the active state (i.e., MAC layer active state). [page 12, lines 1-6]

## <u>ISSUES</u>

- 1. Whether the Office Action erred in rejecting claims 1-9 and 17-20 under 35 U.S.C. §103(a) over U.S. Patent No. 6,292,667 to Wallentin et al. (hereafter "Wallentin") and U.S. Patent No. 6,240,083 to Wright et al. (hereafter "Wright")
- Whether the Office Action erred in rejecting claims 10 and 12-15 under 35 U.S.C.
  §103(a) over Wallentin and Wright
- 3. Whether the Office Action erred in rejecting claim 11 under 35 U.S.C. §103(a)

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over Wallentin and Wright

- 4. Whether the Office Action erred in rejecting claim 16 under 35 U.S.C. §103(a) over Wallentin and Wright
- 5. Whether the Office Action erred in rejecting claims 17-18 under 35 U.S.C. §112, first paragraph

## **GROUPING OF THE CLAIMS**

Appealed claims 1-9 and 17-20 form a single group and stand or fall together where claims 1 and 8 are independent claims. Appealed claims 10 and 12-15 form a single group and stand or fall together where claim 10 is an independent claim. Appealed claim 11 forms a single group. Appealed claim 16 forms a single group.

#### THE ARGUMENT

The outstanding Office Action rejects claims 1-20 under 35 U.S.C. §103(a) over U.S. Patent No. 6,292,667 to Wallentin et al. (hereafter "Wallentin") and U.S. Patent No. 6,240,083 to Wright et al. (hereafter "Wright").

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the references

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themselves to modify the reference or to combine reference teachings. Third, there must be a reasonable expectation of success for the modification or combination of references.

The teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There must be particular findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000). Conclusory statements cannot be relied up for particular combinations of prior art and specific claims. *In re Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002).

**Issue 1.** The Office Action rejects claims 1-9 and 17-20 under 35 U.S.C. §103(a) over Wallentin and Wright. The rejection is respectfully traversed.

Applicants respectfully submit that Wallentin and Wright, individually or in combination, do not teach or suggest at least features of a system including a plurality of radio network controllers and a location management unit that manages service state information, location information and connection information of said active terminal, wherein when said active terminal moves from a first one of said radio network controllers (RNCs) to a second one of said RNCs in a suspended state or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained

between said first and second RNCs under control of said location management unit and combinations thereof as recited in claim 1.

The Office Action asserts that Wallentin discloses a location management unit being an inter-RNC transport link 32 to transfer information (citing column 6, lines 55-63 of Wallentin). Applicants respectfully submit column 6, lines 55-63 discloses the inter-RNC transport link 32 utilized the transport of control and data signals facilitating the inter-RNC soft-handovers. See column 6, lines 58-59 of Wallentin. The message that updates location registration may result from a paging initiation for a routing area. See column 10, lines 45-50 of Wallentin. In summary, the inter-RNC transport link 32 is a media to deliver some information, but is not a main body of data transportation. See Tables 1 and 2 in Wallentin.

The Office Action further asserts that Wallentin discloses a core network handles location updating and paging initiation for the location area (citing column 4, lines 45-50 of Wallentin). Applicants respectfully submit the core network in Wallentin is not in forward communication with a mobile station (MS) during an idle state, but merely receives a location update or comparable message to a HLR (and associated VLR) that provides for location registration, when the MS moves from one area to another in an idle state. See column 11, lines 4-26 of Wallentin. In summary, the core network shown in Figs. 1-2 of Wallentin discloses providing a location registration (see column 2, lines 1-16 of Wallentin), but not MAC state information and radio resource control information of a terminal or a point-to-point protocol (PPP) connection between a new RNC and an active terminal.

Applicants respectfully submit that Wallentin discloses a cellular telecommunication system that saves radio resources by using location updating messaging. In location updating, the <u>idle</u> mobile station updates a home location register (HLR) and visitor location register (VLR) to identify the current <u>location area</u> or <u>routing area</u> hereafter referred to in Wallentin as "multicell areas" that can overlap. See column 2, lines 1-19, 43-48 and 61-63 of Wallentin. Accordingly, Applicants respectfully submit Wallentin merely discloses updating the HLR or VLR. See column 6, lines 51-54.

Wallentin solves its disclosed problem that <u>previously</u> the core network (e.g., the mobile switching centers (MSC)) did not know to which RNCs a page for a mobile station should be sent. See column 3, lines 62-67. Applicants respectfully submit Wallentin discloses when the core network needs to <u>page a mobile station that is idle</u>, the page should be sent to all cells within the applicable multicell area (e.g., location areas). In more detail, Wallentin solves the prior art problem by providing a paging control node paging table in a <u>designated RNC</u> to be contacted by the core network (MSC) when sending the page message to a mobile station in a multicell area. The paging control node paging table can be used to determine the applicable RNCs controlling a portion of the multicell area, and then, the page message can <u>only</u> be sent to the applicable RNCs, for example, by using <u>the inter-RNC transport link</u> 32. See Figures 3A and 3B and descriptions thereof in Wallentin. Thus, Wallentin discloses the core network transmitting a page message <u>in order to locate</u> a desired mobile station to then make a connection between a calling party from the core network and the desired mobile station. See

column 10, lines 39-49 and column 12, lines 50-53 of Wallentin. Accordingly, Wallentin does not teach or suggest functions more than updating the HLR and/or VLR when a mobile station is in idle.

Accordingly, Wallentin does not teach or suggest at least features of wherein, when said active terminal moves from a first one of said radio network controllers to a second one of said radio network controllers in a suspended state or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained and combinations thereof as recited in claim 1. Applicants respectfully submit that Wallentin does not maintain communications with an idle state MS as it moves to a new multi-cell area. Again, Applicants respectfully submit the core network in Wallentin is not in forward communication with a mobile station (MS) during an idle state, but merely receives a location update or comparable message to a HLR that provides for location registration, when the MS moves from one area to another in an idle state. See column 11, lines 4-26 of Wallentin. Accordingly, Wallentin further does not teach or suggest at least a feature of a location management unit and combinations thereof as recited in claim 1.

In contrast, embodiments of the present invention are <u>not</u> related to <u>location registration</u> of the HLR but provide exemplary apparatus and methods to transmit some MAC state information and radio resource control information of the terminal, which can beneficially realize the sharing and/or synchronization of information. Embodiments of the present

invention provide for a case that a PDS active terminal is in suspended or dormant state, and a Location Management Function (LMF) entity can transmit medium access control (MAC) state information and radio resource control information of the terminal to a new target RNC and for that reason after the terminal moves to a new RNC, embodiments can maintain a PPP connection between the new RNC and a terminal. Claim 1 recites a location management unit, wherein, when said active terminal moves from a first one of said radio network controllers to a second one of said radio network controllers in a suspended state or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained between said first and second radio network controllers under control of said location management unit. Applicants respectfully submit an initiation of the transferring is recited by "when said active terminal moves". Applicants respectfully submit that Wallentin does not teach or suggest at least a feature of a location management unit and combinations thereof as recited in claim 1.

The Office Action admits Wallentin does not teach or suggest maintaining medium access control layer state information. See page 6, item 8, lines 15-18 of the outstanding Office Action. The outstanding Office Action asserts Wright teaches such features lacking from Wallentin. See page 6, line 19-page 7, line 6 of the Office Action.

Applicants respectfully submit that Wright does not teach or suggest at least features of a <u>location management unit</u> and combinations thereof recited in claim 1 and lacking from Wallentin. Further, the Office Action does not assert that Wright teaches or suggest a location

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management unit as recited, but asserts that Wright teaches "while in a suspended or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained (citing column 6, lines 34-50 and column 28, lines 5-8; note, the definition of idle is given in column 2, lines 21-25 and specific reference to the MAC layer is made in the latter of the cited passages)." The cited sections of Wright are reproduced below.

The forward channel transmission apparatus also includes receiving means for receiving a data packet or a reservation request including an identifier associated with the requesting device on the reverse channel. Optional synchronizing means synchronizes operations of the broadcasting means and the receiving means. Reading means is provided responsive to the receiving means for reading a received reservation request to determine the identifier associated with the requesting device. The forward transmission apparatus further includes determining means responsive to the reading means for determining if reservation mode access to the reserve channel is available to the requesting device and for determining if reservation mode or contention mode will be selected for the reverse channel. Generating means is provided responsive to the determining means for generating the channel control packet including setting the reservation or contention mode indication and the identifier (Wright: column 6, lines 34-50).

Furthermore, the subscriber MAC layer is only permitted to add additional data packets to the transmission queue while in the idle state (1) (Wright: column 26, lines 5-8).

Applicants respectfully submit the first citation does not discuss operations occurring during an idle state or medium access control operations; and the second citation discusses a <u>subscriber MAC</u>, which is not part of a core network in Wallentin and thus, even if combined with Wallentin does not <u>teach or suggest any modification to the core network</u> in Wallentin. See

Figure 22 of Wright. Further, Applicants respectfully submit that column 31, lines 18-39 appear to disclose a state machine for controlling access to a reverse channel by a population of subscriber devices to reduce contention, but does not teach or suggest controlling a handoff operation in either a suspended state or a dormant state in a MAC layer between a mobile station sand a controlling station or modifying a HLR function. See Figure 23 of Wright. Applicants respectfully submit that Wright combined with Wallentin may disclose a location registration occurs when a mobile station moves from one area to another.

Thus, Applicants respectfully submit that Wallentin and Wright, individually or in combination, would not result in at least features of wherein, when said active terminal moves from a first one of said radio network controllers to a second one of said radio network controllers in a suspended state or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained between said first and second radio network controllers under control of said location management unit and combinations thereof as recited in claim 1.

For at least the reasons set forth above, Applicants respectfully submit claim 1 defines patentable subject matter. Claim 8 defines patentable subject matter for at least reasons similar to claim 1. Claims 2-7, 9 and 19-20 depend from claims 1 and 8, respectively, and therefore also define patentable subject matter for at least that reason as well as their additionally recited features. Withdrawal of the rejection of claims 1-9 and 19-20 under Section 103 is respectfully requested.

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Issue 2. The Office Action rejects claims 10 and 12-15 under 35 U.S.C. §103(a) over Wallentin and Wright. The rejection is respectfully traversed.

With respect to claim 10, Applicants respectfully submit that Wallentin and Wright, individually or in combination, would not result in at least features of allowing the active terminal to detect a received pilot signal, allowing the active terminal to determine whether to perform a handoff operation at a suspended state, and allowing the active terminal to request its change to one of a dormant state and an active state to perform the handoff operation and combinations thereof.

Further, Applicants respectfully submit that even if column 10, lines 45-50 in Wallentin disclose handling routing area updating and paging initiation, this is generated to maintain an HLR function or location registration and does not teach or suggest <a href="https://handlogs.perations">handlogs.perations</a> in a suspended or dormant state or means to transmit MAC state information and radio resource control information of the PDS active terminal, which can result in sharing and synchronization of information. As described above, Wright does not teach or suggest the features recited in claim 10 and lacking from Wallentin. Further, Applicants respectfully submit that state diagrams shown in Figures 22-23 of Wright do not teach or suggest controlling a handoff operation in either a suspended state or a dormant state in a MAC layer between a mobile station sand a controlling station. In addition, Applicants respectfully submit that state diagrams shown in Figures 22-23 of Wright do not teach or suggest modifying a location registration or HLR update function in Wallentin.

For at least the reasons set forth above, Applicants respectfully submit claim 10 defines patentable subject matter. Claims 12-15 depend from claim 10 and therefore also define patentable subject matter for at least that reason as well as their additionally recited features.

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Withdrawal of the rejection of claims 10 and 12-15 under Section 103 is respectfully requested.

Issue 3. The Office Action rejects claim 11 under 35 U.S.C. §103(a) over Wallentin and Wright. The rejection is respectfully traversed.

As described above, Applicants respectfully submit that Wallentin does not teach or suggest functions more than updating the HLR and/or VLR when a mobile station is in idle. Again, Applicants respectfully submit that the core network in Wallentin is not in forward communication with a mobile station (MS) during an idle state, to allow said active terminal to perform the handoff operation in said suspended state, but merely receives a location update or comparable message to a HLR that provides for location registration, when the MS moves from one area to another in an idle state. See column 11, lines 4-26 of Wallentin.

The outstanding Office Action asserts that Wallentin in view of Wright discloses features recited in claim 11. See page 11, lines 11-16 of the outstanding Office Action. Applicants respectfully submit column 28, lines 11-38 of Wright discusses a subscriber MAC. Further, as described above with respect to claim 10, Applicants respectfully submit Wright does not teach or suggest allowing said current radio network controller to transfer radio link protocol state information and radio resource control information of said active terminal to said target radio

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network controller under control of said location management function entity if said active terminal is changed to said dormant state (from said suspended state) and combinations thereof as recited in claim 11.

For at least the reasons set forth above, Applicants respectfully submit claim 11 defines patentable subject matter. Withdrawal of the rejection of claim 11 under Section 103 is respectfully requested.

Issue 4. The Office Action rejects claim 16 under 35 U.S.C. §103(a)over Wallentin and Wright. The rejection is respectfully traversed.

As described above, Applicants respectfully submit that Wallentin does not teach or suggest functions more than updating the HLR and/or VLR when a mobile station is in idle. Again, Applicants respectfully submit that the core network in Wallentin and inter-RNC transport link 32 do not teach or suggest handoff communications with a mobile station (MS) during an idle state, but can control a location update or comparable message to a HLR that provides for location registration, when the MS moves from one area to another in an idle state. See column 11, lines 4-26 of Wallentin.

The outstanding Office Action asserts that Wallentin in view of Wright discloses features recited in claim 11. See page 11, lines 11-16 of the outstanding Office Action. Applicants respectfully submit column 28, lines 11-38 of Wright discusses a subscriber MAC, which is not part of a core network in Wallentin and thus, even if combined with Wallentin does not teach or suggest any modification to the core network in Wallentin. Further, Applicants respectfully

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submit that column 31, lines 18-39 appear to disclose a state machine for controlling access to a reverse channel by a population of subscriber devices to reduce contention, but does not teach or suggest allowing said current radio network controller to transfer radio link protocol state information and radio resource control information of said active terminal to said target radio network controller under control of said location management function entity if said active terminal is changed to said dormant state (from said suspended state) and combinations thereof as recited in claim 11. See Figure 23 of Wright.

For at least the reasons set forth above, Applicants respectfully submit claim 16 defines patentable subject matter. Withdrawal of the rejection of claim 16 under Section 103 is respectfully requested.

Issue 5. The Office Action rejects claims 17-18 under 35 U.S.C. §112, first paragraph. The rejection is respectfully traversed.

Applicants respectfully submit that the an inactive handoff as recited in claim 17 is directed to a <u>not</u> active handoff or an idle handoff as described in the specification, for example, at page 11, line 12 -page 12, line 9, of the present specification. Withdrawal of the rejection of claims 17-18 under 35 U.S.C. §112, first paragraph, for containing subject matter not described in the specification is respectfully requested.

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## **CONCLUSION**

In accordance with the arguments set forth above, the Appellants respectfully request the Honorable Board of Appeals and Interferences withdraw the rejections of claims 1-20 erroneously made by the Examiner under 35 U.S.C. 103(a) and under 35 U.S.C. §112, first paragraph. The Appellants further respectfully request the Honorable Board of Appeals and Interferences of the U.S. Patent and Trademark Office to allow claims 1-20.

> Respectfully submitted, FLESHNER & KIM, LLP

> > (ul Ab leutously

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## <u>APPENDIX</u>

- 1. (Original) A system for controlling a packet data service in a mobile communication network, comprising:
- a plurality of radio network controllers, wherein each of said radio network controllers assigns a radio channel to a packet data service active terminal and controls a data service path for said active terminal; and
- a location management unit that manages service state information, location information and connection information of said active terminal;

wherein, when said active terminal moves from a first one of said radio network controllers to a second one of said radio network controllers in a suspended state or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained between said first and second radio network controllers under control of said location management unit.

- 2. (Original) The system of claim 1, further comprising a packet data node for maintaining a point-to-point protocol link with said active terminal through a serving one of said radio network controllers to process one of an incoming signal from said active terminal and an outgoing signal to said active terminal.
- 3. (Original) The system of claim 2, wherein said second radio network controller is adapted to receive packet data node routing information from said first radio network controller and transfer a node link message to said packet data node to notify the packet data node that said active terminal has moved to said second radio network controller.
- 4. (Previously Presented) The system of claim 1, further comprising a mobile switching center and a visitor location register, wherein said location management is provided to said mobile switching center and visitor location register.
- 5. (Original) The system of claim 4, further comprising a packet control function entity adapted to establish a virtual circuit between a serving one of said radio network controllers and one of a target one of said radio network controllers and a packet data node, wherein said packet control function entity is provided said mobile switching center and visitor location register.
- 6. (Original) The system of claim 1, wherein said suspended state is a state where a traffic channel, a power control channel and a radio resource control channel are released between said active terminal and a serving one of said radio network controllers, and wherein a radio link protocol state and a point-to-point protocol state are maintained between said active terminal and said serving radio network controller; and

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wherein said dormant state is a state where a radio connection is released between said active terminal and said serving radio network controller and only said point-to-point protocol state is maintained between said active terminal and a packet data node.

- 7. (Original) The system of claim 1, wherein said mobile communication network is an IMT-2000/PCS/cellular communication network.
- 8. (Original) In a radio communication network that includes a plurality of radio network controllers, a method for operating a mobile communication network, comprising:
- a) moving a packet data service active terminal from an old one of said radio network controllers to a new one of said radio network controllers in at least one of a suspended medium access control (MAC) layer state and a dormant MAC layer state;
- b) transferring MAC layer state information and radio resource control information of said active terminal from said old radio network controller to said new radio network controller through a location management function entity; and
- c) maintaining said MAC layer state information and radio resource control information of said active terminal between said old and new radio network controllers.
- 9. (Original) The method of claim 8, wherein the location management device is in a mobile switching center and provides radio packet data service.
- 10. (Previously Presented) A method for controlling a packet data service in a mobile communication network of a radio communication network that includes a plurality of radio network controllers, at least one location management function device and a packet data node to provide a radio packet data service, the method comprising:
- a) allowing a packet data service active terminal to move from a current one of said radio network controllers to a target one of said radio network controllers under the condition that only a point-to-point protocol state is maintained between said active terminal and said packet data node;
- b) allowing said active terminal to detect a received pilot signal and check a system overhead message;
- c) allowing said active terminal to determine whether to perform a handoff operation at a suspended state; and
- d) allowing said active terminal to request said current radio network controller to permit its change to one of a dormant state and an active state when the determination is that said active terminal is to perform the handoff operation in said suspended state.

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- 11. (Original) The method of claim 10, further comprising the step of allowing said current radio network controller to transfer radio link protocol state information and radio resource control information of said active terminal to said target radio network controller under control of said location management function entity if said active terminal is changed to said dormant state.
- 12. (Previously Presented) The method of claim 10, wherein when said active terminal is changed to said dormant state, the method further comprises allowing said location management function entity to transfer an overhead message to said target radio network controller to notify the target radio network controller that an inter-radio network controller handoff operation is executed.
- 13. The method of claim 12, wherein when said active terminal is not to perform the handoff operation in said suspended state, the method further comprises the step of allowing said current radio network controller to detect a location of said active terminal and prevent the change to said dormant state.
- 14. (Original) The method of claim 10, wherein the location management function device is in a mobile switching center.
- 15. (Original) The method of claim 10, wherein the mobile communication network is an IMT-2000/PCS/cellular communication network.
- 16. (Previously Presented) The system of claim 1, wherein a handoff is initiated from the first radio network controller to the second radio network controller responsive to said movement of said active terminal to control of the second radio network controller in the suspended state or the dormant state.
- 17. (Previously Presented) The system of claim 16, wherein the handoff is an inactive handoff from said first radio network controller to the second radio network controller.
- 18. (Previously Presented) The system of claim 17, wherein said active terminal in said suspended state is transferred to one of said active state and said dormant state responsive to the location management unit before said inactive handoff.
- 19. (Previously Presented) The system of claim 1, wherein a handoff is initiated from the first radio network controller to the second radio network controller responsive to a status change caused by said movement.
  - 20. (Previously Presented) The method of claim 8, wherein the moving a packet data

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service active terminal is responsive to a status change caused by movement by the active terminal to an area controlled by said new radio network controller.

BRIEF